



ARCADIS  
10559 Citation Drive  
Suite 100  
Brighton  
Michigan 48116  
Tel 810.229.8594  
Fax 810.229.8837  
www.arcadis-us.com

Mr. James Saric  
Remedial Project Manager  
USEPA Region 5  
77 West Jackson Boulevard (SR-6J)  
Chicago, IL 60604-3507

SEDIMENTS

Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site  
Supplemental Remedial Investigations/Feasibility Studies  
Sixth Semi-Annual Progress Report (August 2009 to January 2010)

Date:  
February 15, 2010

Dear Jim:

Contact:  
Michael J. Erickson, P.E.

Attached is the sixth semi-annual progress report for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Supplemental Remedial Investigations/Feasibility Studies (SRI/FS). This progress report is submitted as per Section 7.2 of the Statement of Work (SOW) for the February 2007 Administrative Settlement Agreement and Order on Consent (AOC) for Remedial Investigations/Feasibility Studies (Docket No. V-W-07-C-864). Per Section 7.2 of the SOW, the semi-annual progress reports "shall address all areas of the Site where Respondents perform SRI/FS activities and shall summarize overall progress in completing the work required by the AOC and SOW."

Phone:  
810.225.1924

Email:  
michael.erickson@  
arcadis-us.com

Our ref:  
B0064539.0000.00014

As per Section 1.1.1 of the SOW, "for each Area or OU of the Site with ongoing work, including ongoing monitoring and/or operation and maintenance of existing systems, the Respondents shall continue any such ongoing work unless modifications are approved in writing by USEPA. Reporting of any such ongoing work will be in accordance with the Schedule on Exhibit A of this SOW." To meet this requirement, this letter report also includes the third annual Area-specific work reports for Areas 2 through 7. The Master Schedule for the Site, which was submitted in March 2007, states "As appropriate, the annual Area-specific work reports may be included as an element of the Semi-Annual Progress Reports." As stated in Exhibit A, these reports are to be submitted "for each Area, annually until USEPA's approval of an Area-Specific Work Plan for that Area." Because USEPA approved a work plan for Area 1 as part of the AOC, there is no work report included for Area 1.

If you have any questions, please do not hesitate to contact me.

Sincerely,

ARCADIS U.S., Inc.

A handwritten signature in dark ink, appearing to read "Michael J. Erickson", with a stylized flourish at the end.

Michael J. Erickson, P.E.  
Vice President

MJE/plf  
Attachment

Copies:

Michael Berkoff, USEPA  
Sam Chummar, USEPA  
Sam Borries, USEPA  
Paul Bucholtz, MDNRE  
Jeff Keiser, CH2M HILL  
Todd Goeks, NOAA  
Kathy Huibregtse, RMT Inc.  
Richard Gay, Weyerhaeuser Company  
Martin Lebo, Weyerhaeuser Company  
J. Michael Davis, Esq., Georgia-Pacific LLC  
Garry Griffith, P.E., Georgia-Pacific LLC  
Paul Montney, P.E., Georgia-Pacific LLC

**SEMI-ANNUAL PROGRESS REPORT FOR THE ALLIED PAPER, INC./PORTAGE CREEK/  
KALAMAZOO RIVER SUPERFUND SITE SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

**PREPARED BY ARCADIS U.S., INC.  
ON BEHALF OF GEORGIA-PACIFIC LLC**

**SUBMITTED TO**

**JAMES SARIC, REMEDIAL PROJECT MANAGER  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

**Areas of the Site where Supplemental Remedial Investigations/ Feasibility Studies (SRI/FS) Activities Have Been Performed Pursuant to the February 2007 Administrative Settlement Agreement and Order on Consent (AOC) and Statement of Work (SOW)**

- Operable Unit 5 (OU 5) – Kalamazoo River from Morrow Dam to Lake Michigan and Portage Creek from Alcott Street to the confluence.

**Summary of Overall Progress in Completion Work Required by the AOC and SOW – Area 1 and Multi-Area**

AOC Requirements

- As discussed in Section 28b of the AOC, the United States Environmental Protection Agency (USEPA) and Michigan Department of Environmental Quality (MDEQ) (now referred to as Michigan Department of Natural Resources and Environment [MDNRE] following the merger with Michigan Department of Natural Resources [MDNR] on January 17) were notified in advance of sample collection activities.
- The six monthly progress reports generated during the time period were submitted on time, as required by Section 27 of the AOC and Section 7.1 of the SOW.
- The Semi-Annual Progress Report for the period from February to July 2009 was submitted on time, as required by Section 7.2 of the SOW.
- As discussed in Section 48a of the AOC, the validated data that have been generated to date have been submitted as part of the monthly progress reports.

SOW Requirements

**Task 1. Project Scoping and SRI/FS Planning Documents**

*Submittals approved by USEPA and finalized:*

- On August 17, USEPA approved the *Hot Spot Assessment Sampling Plan*, which was submitted to USEPA on August 12. This assessment is Phase 3 of the sampling effort for the reaches in Area 1 from the Former Georgia-Pacific Mill Lagoons to Crown Vantage Landfill (Section 3.4.1.1 of the Area 1 SRI/FS Work Plan) and Portage Creek (Section 3.4.1.3 of the Area 1 SRI/FS Work Plan). On September 28, ARCADIS forwarded to USEPA the proposed hot spot assessment sediment core locations. On October 14, USEPA conditionally approved the *Hot Spot Core Collection Sampling*

**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

*Plan*, which was submitted on October 8. On October 16, ARCADIS submitted the final *Hot Spot Core Collection Sampling Plan*, which was revised based on USEPA's conditional approval letter.

- On September 16, USEPA approved the revised draft *Multi-Area Feasibility Study (FS) Technical Memorandum – Preliminary Permitting/Equivalency Requirements*. ARCADIS submitted the final document to USEPA on September 25. This document is described in Section 1.2.2.3 of the SOW.
- On August 13, ARCADIS submitted the *Off-channel Areas Sampling Plan* to USEPA. On October 8, ARCADIS submitted to USEPA a sampling plan to collect sediment core samples in selected off-channel areas. On October 14, USEPA conditionally approved the *Off-channel Areas Sampling Plan*. On October 16, ARCADIS submitted the final *Off-channel Areas Sampling Plan*, which was revised based on USEPA's conditional approval letter.
- On November 30, USEPA approved the Supplemental Sediment Sampling Work Plan for the Crown Vantage Area, drafts of which were submitted to USEPA on October 15, November 9, and November 11. This sampling is discussed in Section 3.4.3 of the Area 1 SRI/FS Work Plan.
- On December 9, USEPA concurred with ARCADIS' August 17, 2009 letter requesting agreement not to implement specific contingent sampling tasks outlined in the Area 1 SRI/FS Work Plan.

*Activities toward completion of other requirements:*

- On September 8, Dr. Ken Jenkins of ARCADIS met with Dr. Jim Chapman of USEPA to discuss technical issues associated with the ecological portions of the *Area 1 Work Plan Supplement: Baseline Ecological Risk Assessment Work Plan* (Area 1 Risk Assessment Work Plan).
- On September 17, ARCADIS forwarded to USEPA draft PCB data for the Crown Vantage Area. This sampling is described in Section 3.4.3 of the Area 1 SRI/FS Work Plan.
- On September 29, ARCADIS submitted to USEPA the PCB results of the post-construction sediment sampling performed in the former Plainwell Impoundment Time-Critical Removal Action (TCRA) Area. This sampling is described in Section 3.4.5 of the Area 1 SRI/FS Work Plan.
- On October 5, ARCADIS met with USEPA, the United States Fish and Wildlife Service, MDNR, and MDEQ in Detroit to discuss the ecological portions of the Area 1 Risk Assessment Work Plan.
- On October 8, ARCADIS submitted to USEPA post-removal bathymetric data obtained in July 2009 for the former Plainwell Impoundment TCRA Area, as well as an estimate of the remaining volume of the mid-channel sediment prism. This work is discussed in Section 3.4.5 of the Area 1 SRI/FS Work Plan.

**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

- On November 24, ARCADIS forwarded to USEPA parcel information related to the off-channel sediment sampling and a schedule for the Crown Vantage Area sediment sampling.
- On December 9, ARCADIS submitted to USEPA a summary of groundwater and surface water sampling results for the former Plainwell Impoundment TCRA Area collected during the first three quarters of 2009. This sampling is discussed in Section 3.4.6 of the Area 1 SRI/FS Work Plan.
- On September 18 and December 10, ARCADIS forwarded to USEPA the groundwater and surface water elevations measured at the former Plainwell Impoundment TCRA Area to date (two quarters and three quarters of data respectively).
- On January 26, ARCADIS submitted to USEPA a draft request to discontinue groundwater sampling at the former Plainwell Impoundment TCRA Area based on the results of four quarters of data.

*Submittals awaiting completion:*

- On November 20, ARCADIS submitted to USEPA the revised *Area 1 Work Plan Supplement: Baseline Ecological Risk Assessment Work Plan*. This document was revised in scope, approach, and content in response to verbal comments received from technical representatives of USEPA, MDEQ, and Natural Resources Trustees on the draft work plan submitted to USEPA on June 30, 2009, and collaborative agreement reached on several key issues. The Area-specific work plans are discussed in Section 1.3 of the SOW. Georgia-Pacific LLC (Georgia-Pacific) awaits USEPA's comments on the revised document.
- On January 4, ARCADIS submitted the revised *Multi-Area FS Technical Memorandum – Evaluation of Candidate Technologies and Testing Needs* (Section 4.1 of SOW) and a revised *Multi-Area FS Technical Memorandum - Preliminary Remedial Technology Screening* (Section 1.2.2.1 of SOW) to USEPA for review. USEPA forwarded comments on the *Multi-Area FS Technical Memorandum – Evaluation of Candidate Technologies and Testing Needs* on October 29. USEPA forwarded comments on the *Multi-Area FS Technical Memorandum - Preliminary Remedial Technology Screening* on November 18. Georgia-Pacific awaits USEPA's approval of these documents.

**Task 2. Site Characterization**

- During the weeks of September 7 and 14 and December 1 and 7, ARCADIS monitored the groundwater and surface water elevations twice a week to confirm groundwater flow towards the river in the Plainwell Impoundment TCRA Area for the quarterly sampling. This sampling is discussed in Section 3.4.6 of the Area 1 SRI/FS Work Plan.

**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

- On September 17, ARCADIS processed and submitted to TestAmerica Laboratories, Inc. (TestAmerica) the four outer focused step-out sediment cores from the FF-35 sampling area for PCB analysis.
- During the weeks of September 21 and December 14, ARCADIS sampled 15 wells and collected two surface water samples from the river in the Plainwell Impoundment TCRA Area. Samples were submitted to TestAmerica for analysis of PCBs and selected inorganics.
- On October 12 through 22, ARCADIS collected fish samples from locations throughout Area 1. The samples were held in frozen storage at the ARCADIS field office in Kalamazoo, Michigan until ARCADIS filleted the fish samples during the week of January 11. The fillet samples were submitted to TestAmerica for PCB analysis.
- On October 29 and from November 3 through 17, ARCADIS collected sediment samples for the hot spot assessment. The samples were processed and sent to TestAmerica for PCB analysis.
- On November 10, ARCADIS probed transects at the point bar upstream of transect KRT-8 as part of the hot spot assessment.
- From November 12 through 17, ARCADIS probed locations in the off-channel areas. ARCADIS continued the off-channel areas investigations during the weeks of December 7 and 14 and January 4, 11, and 18. The sediment samples were submitted to TestAmerica for PCB analysis. In January, ARCADIS discussed these sampling activities with MDNRE, in particular the “in between” transects, and forwarded interim probing data to the agencies for discussion.
- On December 1 and 2, ARCADIS collected the supplemental sediment samples associated with the Crown Vantage Area. Samples were submitted to TestAmerica for PCB analysis. This sampling is discussed in Section 3.4.3 of the Area 1 SRI/FS Work Plan.
- On December 9 and 10, ARCADIS collected bathymetric survey data in the former Plainwell Impoundment TCRA Area along 10 transects. This sampling is discussed in Section 3.4.5 of the Area 1 SRI/FS Work Plan.

**Task 3. Remedial Investigation Report (including ecological and human health risk assessment)**

- No meetings, submittals, or notifications were completed for this reporting period.

**Task 4. Treatability Studies (if needed)**

- No meetings, submittals, or notifications.

**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

Task 5. Development of Screening Alternatives (Technical Memorandum)

- No meetings, submittals, or notifications were completed for this reporting period.

Task 6. Detailed Analysis of Alternatives (FS Report)

- No meetings, submittals, or notifications were completed for this reporting period.

Task 7. Progress Reports

- The six monthly progress reports generated during the August 2009 to January 2010 period were submitted on time, as required by Section 7.1 of the SOW.
- The fifth semi-annual report for Area 1 was submitted to USEPA on August 17, as required by Section 7.2 of the SOW.



**Semi-Annual Progress Report for the Allied Paper, Inc./Portage Creek/  
Kalamazoo River Superfund Site SRI/FS**

**REPORT #6, AUGUST 2009 TO JANUARY 2010**

**ANNUAL AREA-SPECIFIC WORK REPORTS (AREAS 2 THROUGH 7)**

**Summary of Overall Progress in Completing Work Required by the AOC and SOW**

**Areas 2 through 7**

- No AOC- or SOW-required work was performed in Areas 3 through 7 for this reporting period.
- On October 12 through 22, ARCADIS collected fish samples from locations throughout Areas 2 through 6. The samples were held in frozen storage at the ARCADIS field office in Kalamazoo, Michigan until ARCADIS filleted the fish samples during the week of January 11. The fillet samples were submitted to TestAmerica for PCB analysis.
- Additional investigation of Lake Allegan (Area 6) sediment was performed during this time period:
  - On August 21 and November 2, ARCADIS released sediment samples for PCB analysis from the Lake Allegan cores that were collected in May 2009 for radionuclide analysis.
  - On September 17, ARCADIS submitted selected frozen sediment core samples for radionuclide analysis from the Lake Allegan cores that were collected in May 2009.
  - On October 27 and 28, ARCADIS collected surface sediment samples in Lake Allegan and submitted the samples to TestAmerica for analysis of PCBs, total organic carbon, and grain size.